

FIG. 1

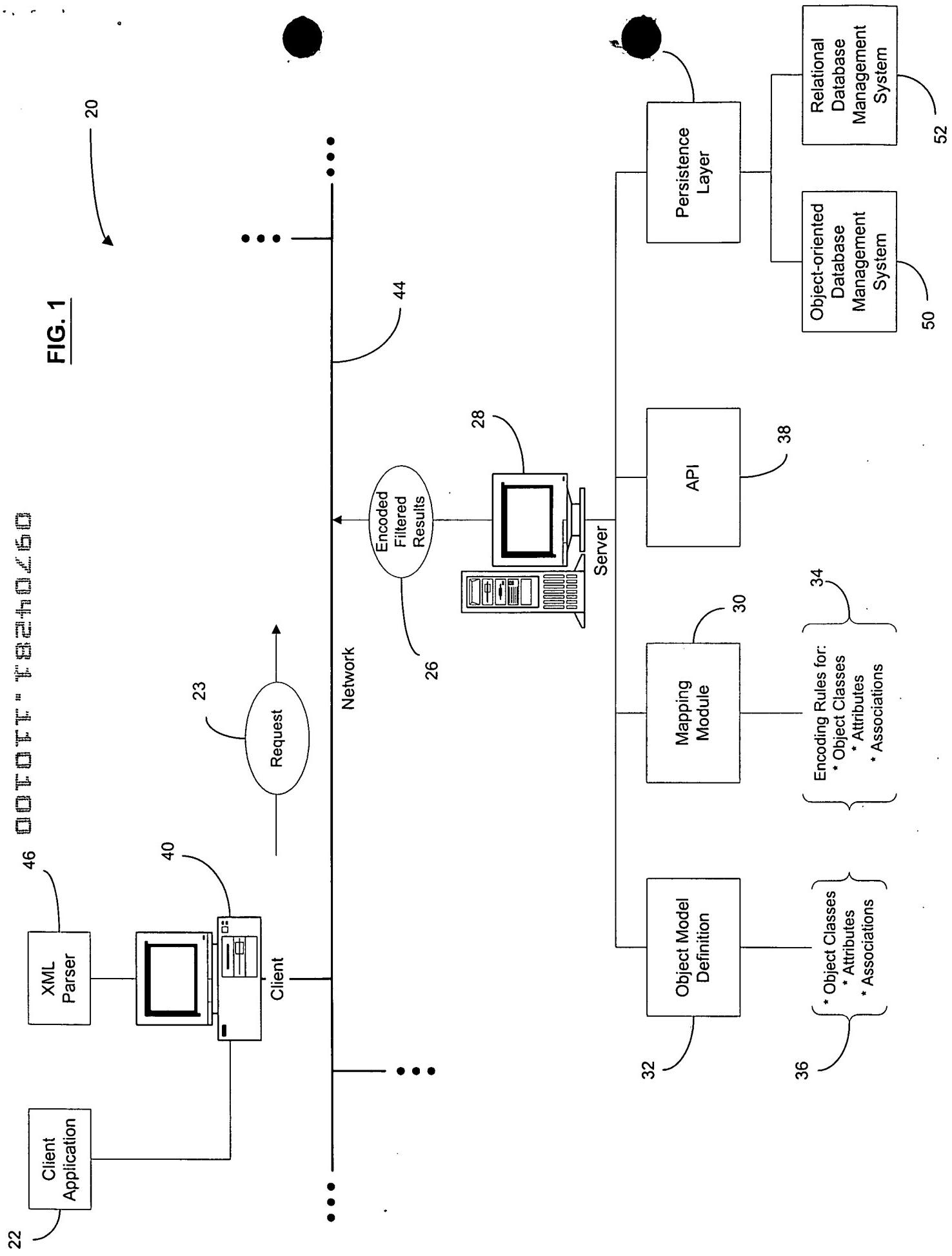


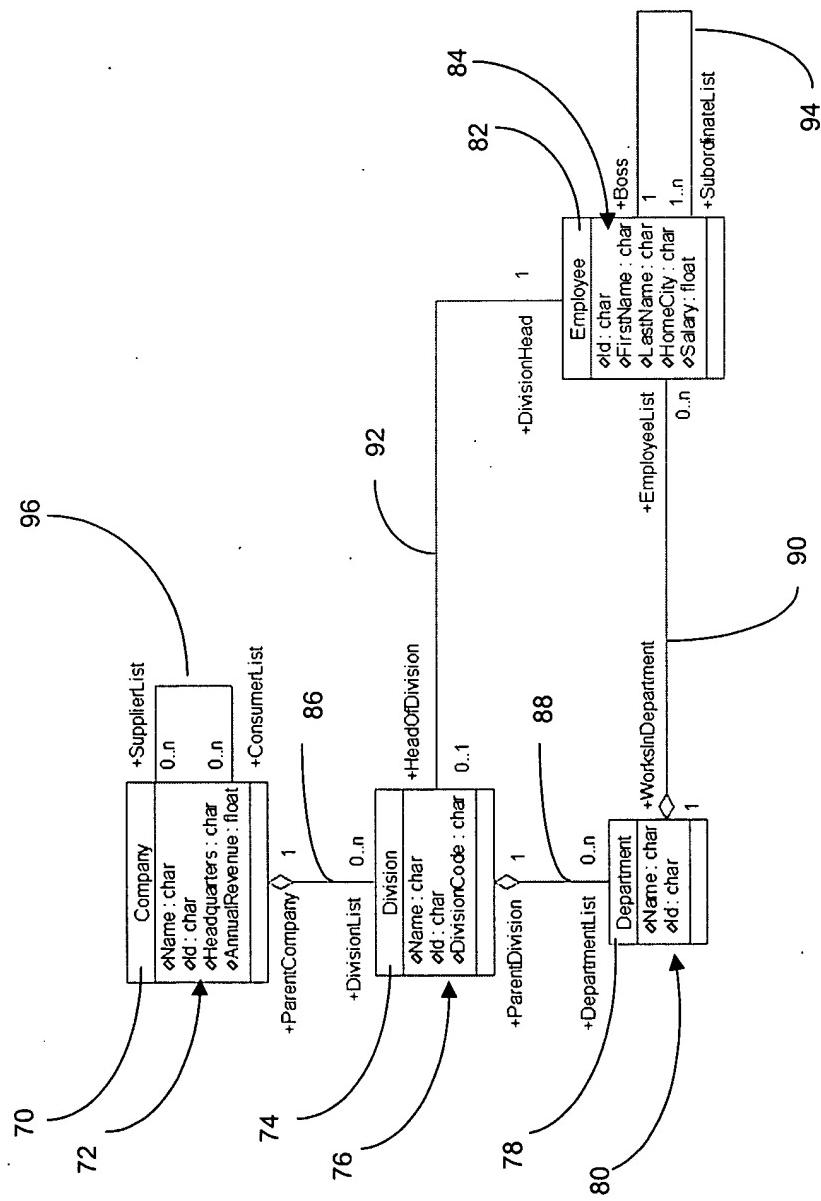
FIG. 2

FIG. 3

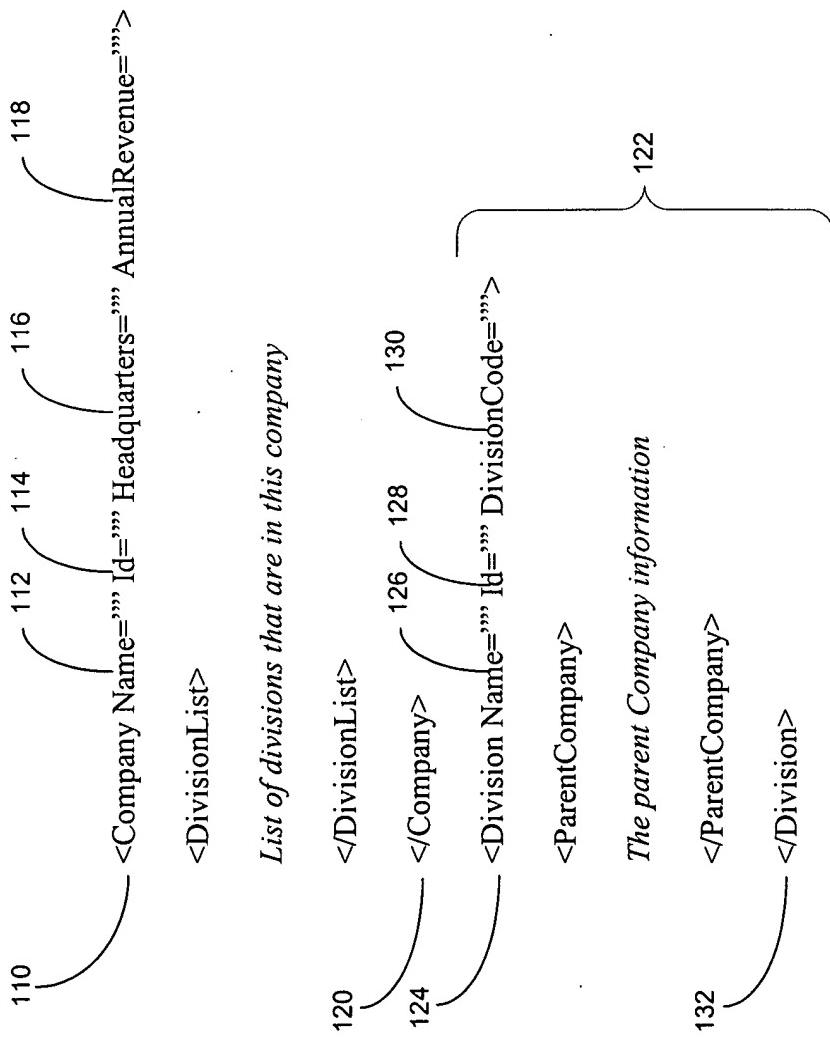


FIG. 4A

The diagram illustrates the structure of an XML document with various annotations:

- Annotation 110 points to the root element: <Company Id="Company1" Name="Acme" AnnualRevenue="1,000,000" Headquarters="Raleigh,NC">
- Annotation 114 points to the <DivisionList> element.
- Annotation 112 points to the <Division Id="Div1" Name="Development"> element.
- Annotation 118 points to the <DepartmentList> element.
- Annotation 180 points to the <Department Id="Dept1" Name="Widgets"> element.
- Annotation 190 points to the <EmployeeList> element.
- Annotation 192 points to the <Employee Id="Emp1" FirstName="Craig" LastName="Smith" HomeCity="Cary" Salary="10,000"> element.
- Annotation 194 points to the <Employee Id="Emp2" FirstName="John" LastName="Doe" HomeCity="Durham" Salary="5,000"> element.
- Annotation 196 points to the <Employee Id="Emp3" FirstName="Fred" LastName="Jones" HomeCity="Apex" Salary="20,000"> element.
- Annotation 198 points to the <Employee Id="Emp4" FirstName="Craig" LastName="Doe" HomeCity="Cary" Salary="3,000"> element.

Annotations 110, 114, 112, 118, 180, 190, 192, 194, 196, and 198 are aligned vertically along the left margin of the XML code. Annotations 190, 192, 194, 196, and 198 are also aligned vertically within their respective <Employee> elements. A vertical scale bar is located on the far left.

```
<Company Id="Company1" Name="Acme" AnnualRevenue="1,000,000" Headquarters="Raleigh,NC">
  <DivisionList>
    <Division Id="Div1" Name="Development">
      <DepartmentList>
        <Department Id="Dept1" Name="Widgets">
          <EmployeeList>
            <Employee Id="Emp1" FirstName="Craig" LastName="Smith" HomeCity="Cary" Salary="10,000">
              <Boss>
                <Employee Idref="#Emp3"/>
              </Boss>
            </Employee>
            <Employee Id="Emp2" FirstName="John" LastName="Doe" HomeCity="Durham" Salary="5,000">
              <Boss>
                <Employee Idref="#Emp3"/>
              </Boss>
            </Employee>
            <Employee Id="Emp3" FirstName="Fred" LastName="Jones" HomeCity="Apex" Salary="20,000">
              </Employee>
            </EmployeeList>
            <DepartmentHead>
              <Employee Idref="#Emp1"/>
            </DepartmentHead>
            </Department>
            <Department Id="Dept2" Name="Widgets">
              <EmployeeList>
                <Employee Id="Emp4" FirstName="Craig" LastName="Doe" HomeCity="Cary" Salary="3,000">
                  <Boss>
                    <Employee Idref="#Emp6"/>
                  </Boss>
                </Employee>
                <Employee Id="Emp5" FirstName="John" LastName="Smith" HomeCity="Durham" Salary="15,000">
                  <Boss>
                    <Employee Idref="#Emp6"/>
                  </Boss>
                </Employee>
              </EmployeeList>
            </Department>
          </DepartmentList>
        </Division>
      </DivisionList>
    </Company>
```

(CONTINUED ON FIG. 4B)

FIG. 4B

200

```
<Employee Id="Emp6" FirstName="Fred" LastName="Adams"  
HomeCity="Apex" Salary="26,000">  
</Employee>  
  
</EmployeeList>
```

```
<DepartmentHead>  
    <Employee Idref="#Emp6"/>
```

```
</DepartmentHead>
```

```
</Department>
```

```
</DepartmentList>
```

```
</Division>
```

```
</DivisionList>
```

```
<SupplierList>
```

```
<Company Idref="#Company2"/>
```

```
</SupplierList>
```

```
<ConsumerList>
```

```
<Company Idref="#Company3"/>
```

```
</ConsumerList>
```

```
</Company>
```

```
<Company Id="Company2" Name="BigCompany" AnnualRevenue="1,000,000,000"  
Headquarters="Philadelphia, PA">
```

```
<DivisionList>
```

```
    <Division Id="BCDev" Name="Development">
```

```
        <DepartmentList>
```

```
            <Department Id="BCDept1" Name="Objects">
```

```
                <EmployeeList>
```

```
                    <Employee Id="BCEmp1" FirstName="Craig" LastName="Jones"  
HomeCity="Paoli" Salary="15,000">
```

```
                        <Boss>
```

```
                            <Employee Idref="#BCEmp3"/>
```

```
                        </Boss>
```

```
                    </Employee>
```

```
                    <Employee Id="BCEmp2" FirstName="John" LastName="Smith"
```

```
HomeCity="Cherry Hill" Salary="20,000">
```

```
                        <Boss>
```

```
                            <Employee Idref="#BCEmp3"/>
```

```
                        </Boss>
```

```
</Employee>
```

(CONTINUED ON FIG. 4C)

FIG. 4C

```
<Employee Id="BCEmp3" FirstName="Fred" LastName="Doe"  
HomeCity="Reading" Salary="25,000">  
    </Employee>  
</EmployeeList>  
<DepartmentHead>  
    <Employee Idref="#BCEmp3"/>  
</DepartmentHead>  
</Department>  
<Department Id="BCDept2" Name="Relational">  
    <EmployeeList>  
        <Employee Id="BCEmp4" FirstName="Jill" LastName="Smith"  
HomeCity="Pottstown" Salary="30,000">  
            <Boss>  
                <Employee Idref="#Emp6"/>  
            </Boss>  
        </Employee>  
        <Employee Id="BCEmp5" FirstName="Donna" LastName="Wild"  
HomeCity="Newark" Salary="15,000">  
            <Boss>  
                <Employee Idref="#BCEmp6"/>  
            </Boss>  
        </Employee>  
        <Employee Id="BCEmp6" FirstName="Jane" LastName="Francis"  
HomeCity="Dover" Salary="36,000">  
            </Employee>  
  
    </EmployeeList>  
  
<DepartmentHead>  
    <Employee Idref="#BCEmp6"/>  
</DepartmentHead>  
</Department>  
</DepartmentList>  
</Division>  
</DivisionList>  
<ConsumerList>  
    <Company Idref="#Company1"/>  
</ConsumerList>  
<SupplierList>  
    <Company Idref="#Company3"/>  
</SupplierList>  
</Company>
```

(CONTINUED ON FIG. 4D)

FIG. 4D

```
<Company Id="Company3" Name="SmallCompany" AnnualRevenue="100,000"  
Headquarters="Cleveland, OH">  
  <DivisionList>  
    <Division Id="SCDiv1" Name="Development">  
      <DepartmentList>  
        <Department Id="SCDept1" Name="RD">  
          <EmployeeList>  
            <Employee Id="SCEmp1" FirstName="Bob" LastName="Jones"  
HomeCity="Canton" Salary="15,000">  
              <Boss>  
                <Employee Idref="#SCEmp2"/>  
              </Boss>  
            </Employee>  
            <Employee Id="SCEmp2" FirstName="John" LastName="Williams"  
HomeCity="Akron" Salary="20,000">  
              </Employee>  
            </EmployeeList>  
            <DepartmentHead>  
              <Employee Idref="#SCEmp2"/>  
            </DepartmentHead>  
          </Department>  
        </DepartmentList>  
      </Division>  
    </DivisionList>  
    <SupplierList>  
      <Company Idref="#Company1"/>  
    </SupplierList>  
    <ConsumerList>  
      <Company Idref="#Company2"/>  
    </ConsumerList>  
  </Company>
```

FIG. 5

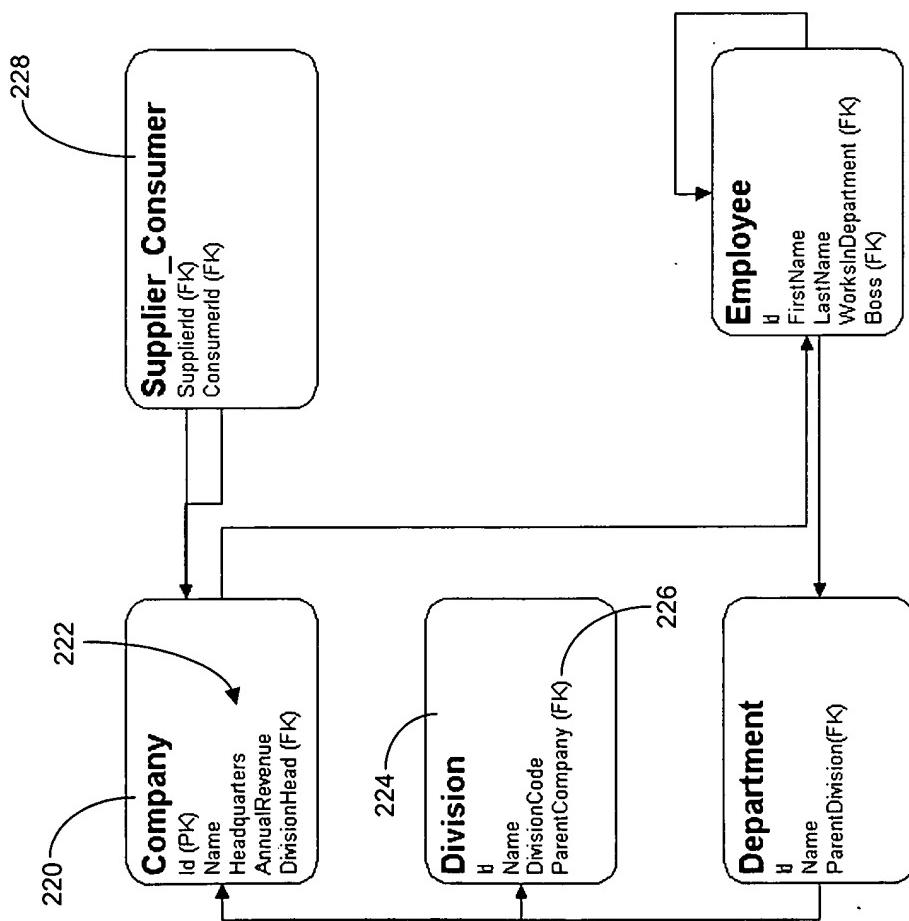


FIG. 6

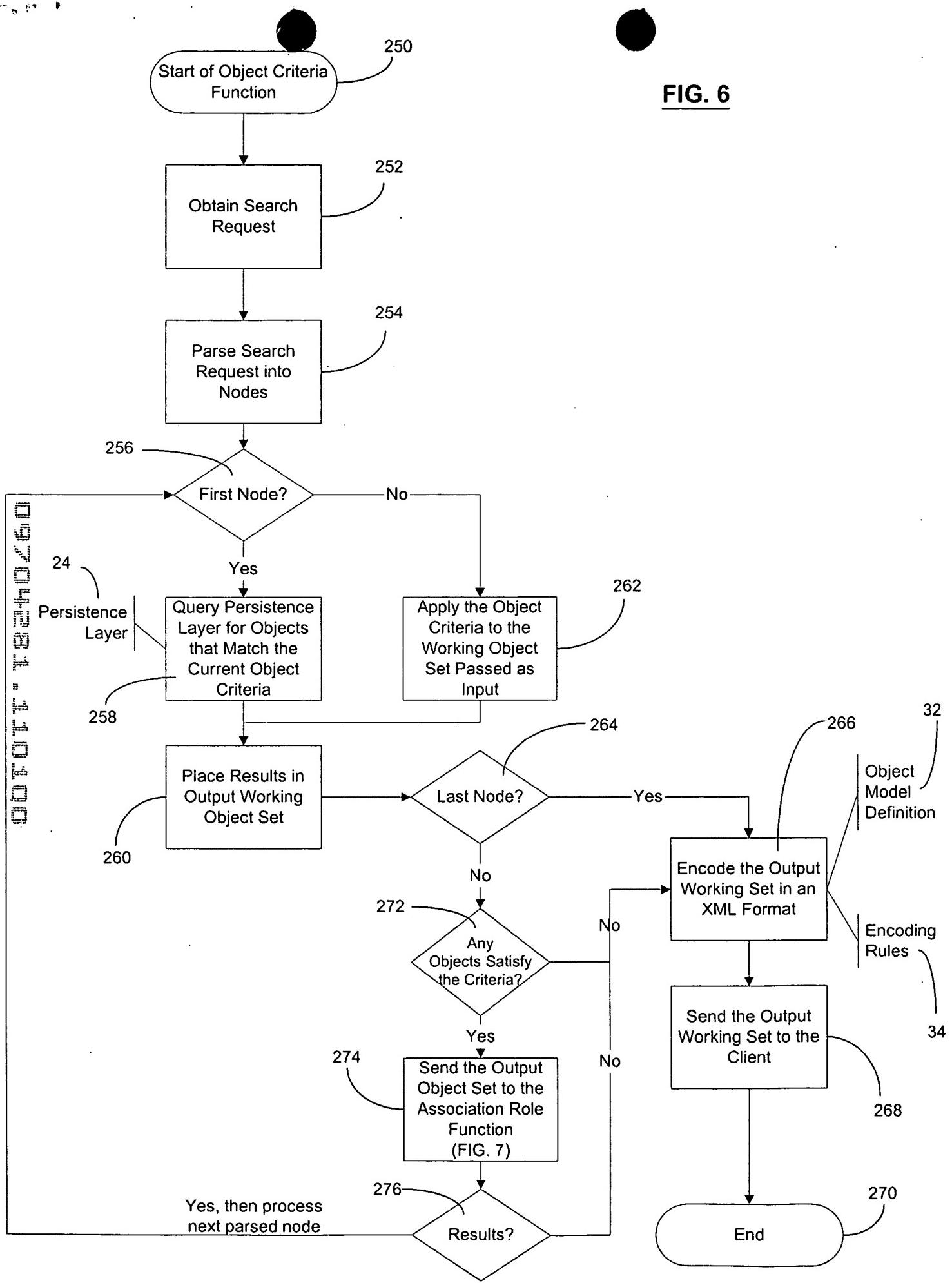
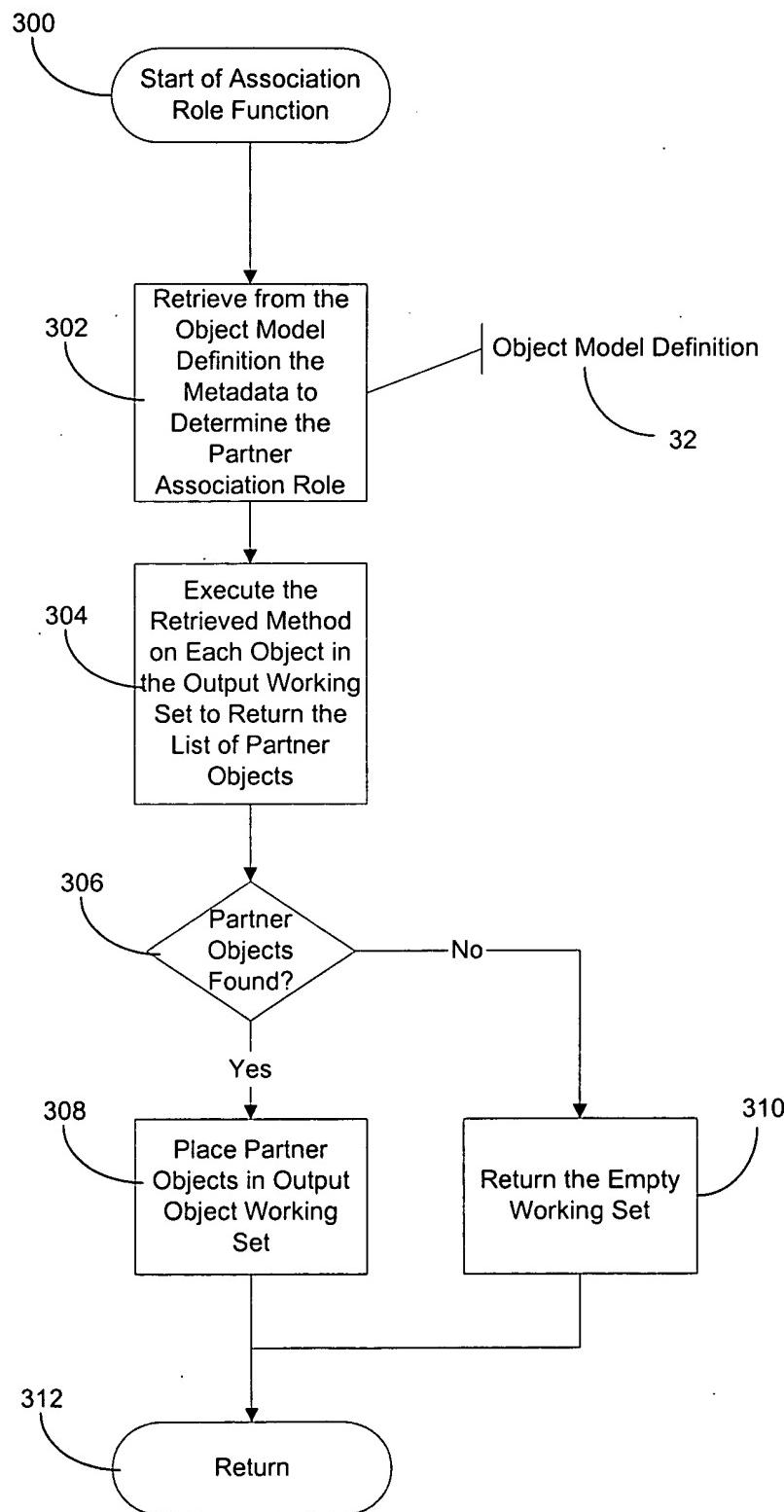


FIG. 7



DOCUMENTATION